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PRELIMINARY REPORT ON THE PRIMITIVE MAN OF NEBRASKA

BY
ERWIN HINCKLEY BARBOUR
AND HENRY BALDWIN WARD

Scientific Contribution
Geological fund of Hon. Charles H. Morrill



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PRELIMINARY REPORT ON THE PRIMITIVE MAN
OF NEBRASKA

BY ERWIN H. BARBOUR AND HENRY B. WARD

About ten miles north of Omaha, or three miles north of Florence, Nebraska, on a hill weathered out of the Loess formation, a circular burial mound was recently observed and explored by Mr. Robert F. Gilder.

Many skeletal parts and eight skulls have already been exposed and as the work of excavating progresses other remains will doubtless be added to the list.

The bones were unearthed early in October, the entire collection donated at once to the State Museum, and the skulls were figured and described by the discoverer in the *World-Herald*, October 21.

Five of the skulls were found at a depth of four to five feet, in a layer of "packed clay" or loess. These seem to be of such a primitive order that they are worthy of special study, and it is possible that they may prove to be the earliest type of man known as yet in America. Above this layer three skulls and many bones of a more advanced race have been found, and it is certain they were buried intrusively. It is not an uncommon thing for one tribe to bury its dead in or about the mounds of predecessors.

It is not improbable then that the three skulls in the upper layer are those of mound builders while those below are their progenitors.

This paper will concern itself with the remains found in the lower layer.

It is plain that burial of the dead was not immediate, for the bones seem to have been weathered, scattered, and gnawed prior to final interment. The relative scarcity of ribs and of bones of the foot and hand, and the position of parts go to indicate the same thing.

The fine state of preservation of these bones, which at the least must be very old, is due to the fact that the rainfall of the region is light, and most of the storm water would flow immediately from the knob of the hill, and the little that soaked in would percolate



Fig. 1. Skull No. 6, Nebraska Man, top view, showing thick prominent superciliary ridges, frontal bone without eminences, right and left parietal, and interparietal or os incae at the back. The fronto-parietal, interparietal and occipital sutures are deeply dentate. One-half natural size.

Specimen No. 6-1-11-06. The Robert F. Gilder collection, State Museum.

Negative No. 9-1-11-06. Hon. Charles H. Morrill's collection of geological photographs.

rapidly through the permeable soil, and would leach the bones but little.

The limb bones are massive and large, indicating a stature of six feet, and uncommonly rough, indicating a people who were very muscular, particularly in the lower extremities. The strikingly large protuberances support this view. The crania are low-browed with heavy protruding superciliary ridges, and receding foreheads which lack frontal eminences. In life these people had flat heads, protruding muzzles, large chins, and heavy brows, shading eyes deep set and close together. The low-browed crania are not the result of head-binding, nor are they those of idiots, nor are they malformed. Instead they are normal, and represent the cranial development of the time. Though showing many points of similarity as well as differences, on the whole they seem inferior to the mound builder, and we may for the present at least consider the Nebraska Man as a very early or degenerate mound builder. In corroboration are the crude flint implements or chips, whichever they are, associated with the bones, and the mode of burial in mounds.

After carefully comparing these skulls with known skulls in his collection, Dr. M. H. Everett, who has studied the mound builder in various states, pronounces the five skulls as being at least as ancient as the mound builder, which he takes them to be.

Several bones were deeply gnawed by rodents, one or more appear to have been hacked or scraped by some flint blade, and a couple are interesting pathologically. One of these is a broken ulna which had knit together without surgical aid, and the other is a case of exostosis between two lumbar vertebrae, which have become co-ossified. A stellate fracture of the skull near the temple tells of a tragedy and the roughened surface beneath and around the fracture indicates the subsequent inflammatory abscess and a lingering death. The two sacra show peculiarities, interesting though not unique, the one having a neural arch over vertebrae one, two, and three; the other having no neural arch throughout the five co-ossified vertebrae. There are peculiarities and variations in the individual bones which ought to be noted, but such detailed considerations belong properly to a more

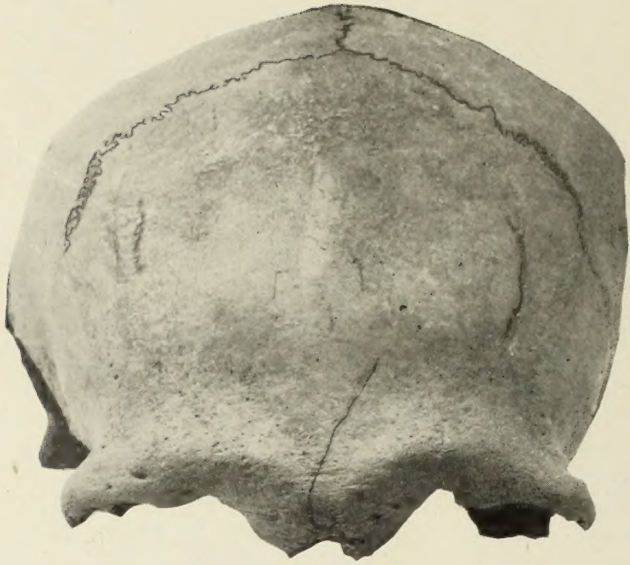


Fig. 2. Skull No. 6. Nebraska Man, front view, showing thick protruding superciliary ridges, frontal bone without eminences, right and left parietals. Fronto-parietal and interparietal sutures deeply dentate. Three-fifths natural size.

Specimen No. 6-1-11-06. The Robert F. Gilder collection, State Museum.

Negative No. 10.5-1-11-06. Hon. Charles H. Morrill's collection of geological photographs.

technical paper, and only the more salient points need consideration here.

THE SKULL

The skull is characterized by narrowness through the temples, by thick protruding superciliary ridges or brows, by a low, retreating forehead as destitute of frontal eminences as Neanderthal man, by a well expanded parietal region with parietal eminences, and very faint temporal ridges, and by a flattened occipital region, deeply scarred for muscular attachment. The skull wall seems distinctly thicker than that of modern man. Unfortunately, in each case, the base of the skull is very fragmentary or wanting, which makes it the more difficult to get exact measurements and angles, and impossible perhaps to get more than a fair approximate measure of the cranial cubic contents. It seems wiser to leave these measurements for the final report after all possible fragments have been put together. Maxillae and premaxillae are at hand, and can be placed in about the proper position in the skull. Posteriorly one skull shows a fine interparietal bone or os incae, as often called.

THE MANDIBLE

The mandible compares well with that of a modern European in size and in form, but it is noticeably thicker and heavier. The mental process is bold and well pronounced like that of civilized man. The canines scarcely exceed the incisors in strength. The molars are about of ordinary size but the manner in which they are worn, as evidenced by the several jaws, is reversed, the first molar being worn but little, the second considerably, and the third worn down to the gum, indicating that they had been accustomed to the mastication of coarse hard food.

MISCELLANEOUS BONES

The ribs, vertebrae, bones of the digits, hand bones, sesamoids, etc., show no differences sufficiently marked to warrant description here. The arm bones give the impression of being a trifle light, while the leg bones seem to be a trifle heavy, rough and angular. The femur seems above average in strength and in roughness for muscular attachment, both in the trochanters and muscular ridge. The impression for the ligamentum teres is large deep and elliptical in outline with a surrounding ridge. The femur



Fig. 3. Skull No. 6. Nebraska Man, side view, showing thick protruding superciliary ridges, retreating frontal without eminences, parietal, interparietal (os incae, os wormianum), occipital and a portion of the temporal bone with mastoid process and external auditory meatus. One-half natural size; right side reversed to face left.

Specimen No. 6-1-11-06. The Robert F. Gilder collection, State Museum.

Negative No. 19.5-1-11-06. Hon. Charles H. Morrill's collection of geological photographs.

shows a strong forward curvature and is triangular in cross section with the depth much greater than its breadth. The knee is very broad and flat; the tibia is also triangular in section and much deeper than broad. The character of the limb bones agree well with the more primitive types.

The writers have frequently seen examples equally ancient but these are the first authentically located.

In succeeding reports the peculiarities of individual bones will be considered.

Associated with the skeletons were certain flint implements or chips of crude design.

MEASUREMENTS

The antero-posterior diameter of skull No. 6 is 181 mm., its transverse diameter is 145 mm., while the maximum and minimum frontal diameters are 93 and 114 mm. respectively. As the right side is broken the circumference can only be estimated; it is not far from 500 mm. and the height of the skull, approximated for the same reason, measures about 125 mm. The cephalic index calculated on the basis of these data is 79. After the mass of fragmentary material has been completely assorted, it is hoped that some further portions of the skull may be found and then the measurements above will be more exactly determinable.

BRIEF GEOLOGICAL DESCRIPTION

While this paper was in press the senior writer visited the mound in company with Mr. Gilder and undertook critical investigation. The mound is situated on the summit of a hill of loess 200 feet above the Missouri river.

A geological section from the Missouri valley to Gilder's mound on the summit of Long's hill is as follows: dark carboniferous shale, overlaid by fifteen or twenty feet of glacial clay, on which rests 150 feet of homogeneous light buff loess. The three skulls buried intrusively were in a mixture of black soil and buff subsoil. The five primitive skulls and certain bones were fragmentary,

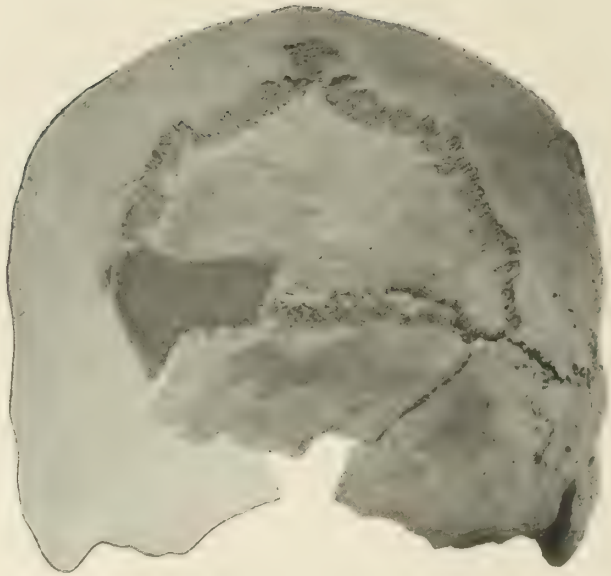


Fig. 4. Skull No. 6, Nebraska Man, back view, showing parietals, interparietal (os incae or os wormianum), occipital and right temporal with mastoid process. Sutures deeply dentate. One-half natural size.

Specimen No. 6-1-11-06. The Robert F. Gilder collection, State Museum.

Negative No. 18.5-1-11-06. Hon. Charles H. Morrill's collection of geological photographs.

water-worn and scattered through four or more vertical feet of original undisturbed loess, and plainly belong to that formation, as will be discussed at length in succeeding papers.

The bones of the lower layer seem synchronous with the loess formation, and antedate the hill itself, while those of the upper layer are younger than the loess and subsequent to the hill.

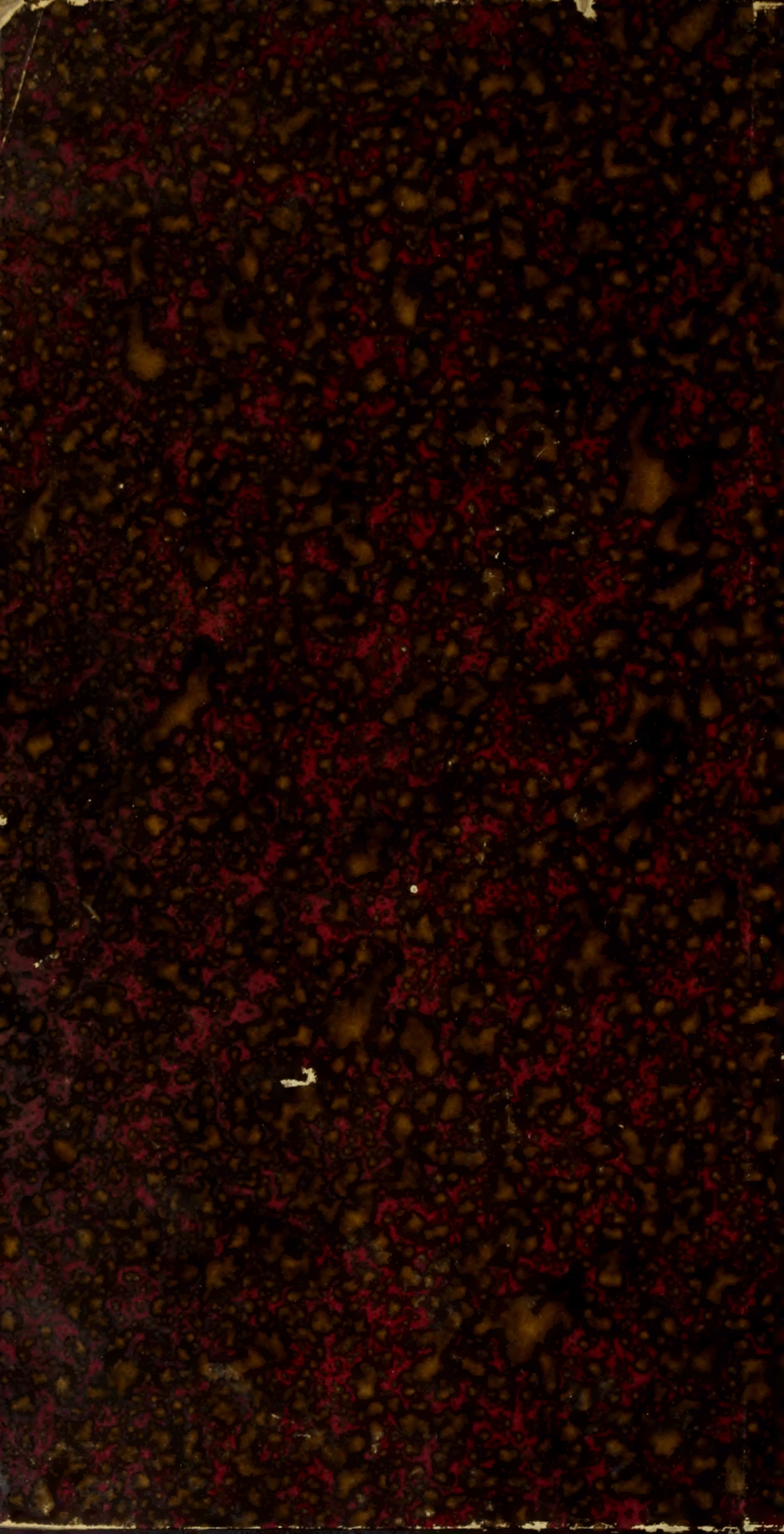
The occurrence of the two sets of bones at this spot seems to be purely accidental.

October 26, 1906.





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